

**SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN
MINILLAS GOVERNMENT COMPLEX ASBESTOS EMERGENCY
RESPONSE ASSESSMENT
San Juan, Puerto Rico**

NON-TIME CRITICAL

Prepared By:

**Removal Support Team 2
Weston Solutions, Inc.
Northeast Division
Santurce, Puerto Rico 00910**

**RST 2-02-F-2021
TDD No.: TO-0024-0234
EPA Contract No.: EP-W-06-072**

May 2012

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LIST OF ACRONYMS

| | |
|--------|----------------------------------------------------------------------|
| ADR | Automated Data Review |
| ANSETS | Analytical Services Tracking System |
| AOC | Acknowledgment of Completion |
| ASTM | American Society for Testing and Materials |
| CEO | Chief Executive Officer |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CLP | Contract Laboratory Program |
| CFM | Contract Financial Manager |
| CO | Contract Officer |
| COI | Conflict of Interest |
| COO | Chief Operations Officer |
| CRDL | Contract Required Detection Limit |
| CRTL | Core Response Team Leader |
| CRQL | Contract Required Quantitation Limit |
| CQLOSS | Corporate Quality Leadership and Operations Support Services |
| CWA | Clean Water Act |
| DCN | Document Control Number |
| DESA | Division of Environmental Science and Assessment |
| DI | Deionized Water |
| DPO | Deputy Project Officer |
| DQI | Data Quality Indicator |
| DQO | Data Quality Objective |
| EM | Equipment Manager |
| EDD | Electronic Data deliverable |
| ENVL | Environmental Unit Leader |
| EPA | Environmental Protection Agency |
| ERT | Environmental Response Team |
| FASTAC | Field and Analytical Services Teaming Advisory Committee |
| GC/ECD | Gas Chromatography/Electron Capture Detector |
| GC/MS | Gas Chromatography/Mass Spectrometry |
| HASP | Health and Safety Plan |
| HRS | Hazard Ranking System |
| HSO | Health and Safety Officer |
| ITM | Information Technology Manager |
| LEL | Lower Explosive Limit |
| MSA | Mine Safety Appliances |
| MS/MSD | Matrix Spike/Matrix Spike Duplicate |
| NELAC | National Environmental Laboratory Accreditation Conference |
| NELAP | National Environmental Laboratory Accreditation Program |
| NIOSH | National Institute for Occupational Safety and Health |
| NIST | National Institute of Standards and Technology |
| OSC | On-Scene Coordinator |
| OSHA | Occupational Safety and Health Administration |

LIST OF ACRONYMS (Concluded)

| | |
|--------|-----------------------------------------------------------------------------------|
| OSWER | Office of Solid Waste and Emergency Response |
| PARCCS | Precision, Accuracy, Representativeness, Completeness, Comparability, Sensitivity |
| PAH | Polynuclear Aromatic Hydrocarbons |
| PCB | Polychlorinated Biphenyls |
| PIO | Public Information Officer |
| PM | Program Manager |
| PO | Project Officer |
| PRP | Potentially Responsible Party |
| PT | Proficiency Testing |
| QA | Quality Assurance |
| QAL | Quality Assurance Leader |
| QAPP | Quality Assurance Project Plan |
| QMP | Quality Management Plan |
| QA/QC | Quality Assurance/Quality Control |
| QC | Quality Control |
| RC | Readiness Coordinator |
| RCRA | Resource Conservation and Recovery Act |
| RPD | Relative Percent Difference |
| RSCC | Regional Sample Control Coordinator |
| RST | Removal Support Team |
| SARA | Superfund Amendments and Reauthorization Act |
| SEDD | Staged Electronic Data Deliverable |
| SOP | Standard Operating Practice |
| SOW | Statement of Work |
| SPM | Site Project Manager |
| START | Superfund Technical Assessment and Response Team |
| STR | Sampling Trip Report |
| TAL | Target Analyte List |
| TCL | Total Compound List |
| TDD | Technical Direction Document |
| TDL | Technical Direction Letter |
| TO | Task Order |
| TQM | Total Quality Management |
| TSCA | Toxic Substances Control Act |
| UFP | Uniform Federal Policy |
| VOA | Volatile Organic Analysis |

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CROSSWALK

The following table provides a “cross-walk” between the QAPP elements outlined in the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP Manual), the necessary information, and the location of the information within the text document and corresponding QAPP Worksheet. Any QAPP elements and required information that are not applicable to the project are circled.

| QAPP Element(s) and Corresponding Section(s) of UFP-QAPP Manual | | Required Information | Crosswalk to QAPP Section | Crosswalk to QAPP Worksheet No. |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------|---------------------------------|
| Project Management and Objectives | | | | |
| 2.1 | Title and Approval Page | - Title and Approval Page | Approval Page | 1 |
| 2.2 | Document Format and Table of Contents | - Table of Contents | TOC | 2 |
| 2.2.1 | Document Control Format | - QAPP Identifying Information | Approval Page | |
| 2.2.2 | Document Control Numbering System | | | |
| 2.2.3 | Table of Contents | | | |
| 2.2.4 | QAPP Identifying Information | | | |
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| 2.3.2 | Project Personnel Sign-Off Sheet | | | |
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| 2.4.2 | Communication Pathways | - Personnel Responsibilities and Qualifications | | 7 |
| 2.4.3 | Personnel Responsibilities and Qualifications | - Special Training Requirements and Certification | | 8 |
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| 2.5 | Project Planning/Problem Definition | - Project Planning Session Documentation (including Data Needs tables) | 1 | |
| 2.5.1 | Project Planning (Scoping) | - Project Scoping Session | | 9 |
| 2.5.2 | Problem Definition, Site History, and Background | - Participants Sheet | | 10 |
| | | - Problem Definition, Site History, and Background | | |
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| 2.6.2 | Measurement Performance Criteria | | | |
| 2.7 | Secondary Data Evaluation | - Sources of Secondary Data and Information | 1 | 13 |
| | | - Secondary Data Criteria and Limitations | 2 | |

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| QAPP Element(s) and Corresponding Section(s) of UFP-QAPP Manual | | Required Information | | Crosswalk to QAPP Section | Crosswalk to QAPP Worksheet No. |
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| 3.1.2.2 | Sample Containers, Volume, and Preservation | - | Field Quality Control | | 21 |
| 3.1.2.3 | Equipment/Sample Containers Cleaning and Decontamination Procedures | - | Sample Summary | | 21 |
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| 3.3.2 | Sample Handling and Tracking System | - | Sample Handling Flow Diagram | | 26 |
| 3.3.3 | Sample Custody | - | Example Chain-of-Custody Form and Seal | | |

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| QAPP Element(s) and Corresponding Section(s) of UFP-QAPP Manual | | Required Information | Crosswalk to QAPP Section | Crosswalk to QAPP Worksheet No. |
|-----------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|---------------------------|---------------------------------|
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| 4.1.2 | Assessment Findings and Corrective Action Responses | - Audit Checklists | | |
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QAPP Worksheet #1: Title and Approval Page

Title: Site-Specific Quality Assurance Project Plan
Site Name/Project Name: Minillas Government Complex Asbestos Emergency Response Assessment
Site Location: San Juan, Puerto Rico
Revision Number: 00
Revision Date: Not Applicable

Weston Solutions, Inc.

Lead Organization

Carlos L. Huertas
Weston Solutions, Inc.
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Santurce, Puerto Rico, 00910
Email: carlos.huertas@westonsolutions.com

Preparer's Name and Organizational Affiliation

May 24, 2012

Preparation Date (Day/Month/Year)

Site Project Manager:

Signature

Carlos Huertas /Weston Solutions, Inc.

Printed Name/Organization/Date

QA Officer/Technical Reviewer:

Signature

Smita Sumbaly/Weston Solution, Inc.

Printed Name/Organization/Date

EPA, Region II On-Scene Coordinator (OSC):

Signature

Ángel Rodríguez, /EPA, Region II

Printed Name/Organization/Date

EPA, Region II Quality Assurance Officer (QAO):

Signature

Printed Name/Organization/Date

Document Control Number: RST 2-02-F-2021

QAPP Worksheet #2
QAPP Identifying Information

Site Name/Project Name: Minillas Government Complex Asbestos Emergency Response Assessment

Site Location: San Juan, Puerto Rico

Operable Unit: 00

Title: Site-Specific Quality Assurance Project Plan

Revision Number: 00

Revision Date: Not Applicable

- 1. Identify guidance used to prepare QAPP:** Uniform Federal Policy for Quality Assurance Project Plans. Refer to EPA 600/R-93/116 and ASTM 6480-05 methods.
- 2. Identify regulatory program:** EPA, Region II
- 3. Identify approval entity:** EPA, Region II
- 4. Indicate whether the QAPP is a generic or a site-specific QAPP.**
- 5. List dates of scoping sessions that were held:** 5/16/2012
- 6. List dates and titles of QAPP documents written for previous site work, if applicable:**
Not Applicable
- 7. List organizational partners (stakeholders) and connection with lead organization:** None
- 8. List data users:** EPA, Region II (see Worksheet #4 for individuals)
- 9. If any required QAPP elements and required information are not applicable to the project, then provide an explanation for their exclusion below:**

Worksheet # 28 not required since all QC information is provided in WS#12.
- 10. Document Control Number:** RST 2-02-F-2021

QAPP Worksheet #3: Distribution List

[List those entities to which copies of the approved site-specific QAPP, subsequent QAPP revisions, addenda, and amendments are sent]

| QAPP Recipient | Title | Organization | Telephone Number | Fax Number | E-mail Address | Document Control Number |
|-------------------|---------------------------|----------------------------------|------------------|----------------|--------------------------------------------------------------------------------------------|-------------------------|
| Angel Rodriguez | EPA, On-Scene Coordinator | EPA, Region II | (787) 671-8093 | (787) 289-7104 | rodriguez.angel@epa.epamail.gov | RST 2-02-F-2021 |
| Carlos L. Huertas | Site Project Manager | Weston Solutions, Inc. | (787)256-2501 | (787) 256-2508 | Carlos.Huertas@Westonsolutions.com | RST 2-02-F-2021 |
| Smita Sumbaly | QA Officer | Weston Solutions, Inc., RST 2 | (732) 585-4410 | (732) 225-7037 | Smita.Sumbaly@westonsolutions.com | RST 2-02-F-2021 |
| Timothy Benton | HSO | Weston Solutions, Inc., RST 2 | (732) 585-4425 | (732) 225-7037 | Tim.benton@westonsolutions.com | RST 2-02-F-2021 |
| Site TDD File | RST 2 Site TDD File | Weston Solutions, Inc., RST 2 | Not Applicable | Not Applicable | Not Applicable | - |

QAPP Worksheet #4: Project Personnel Sign-Off Sheet

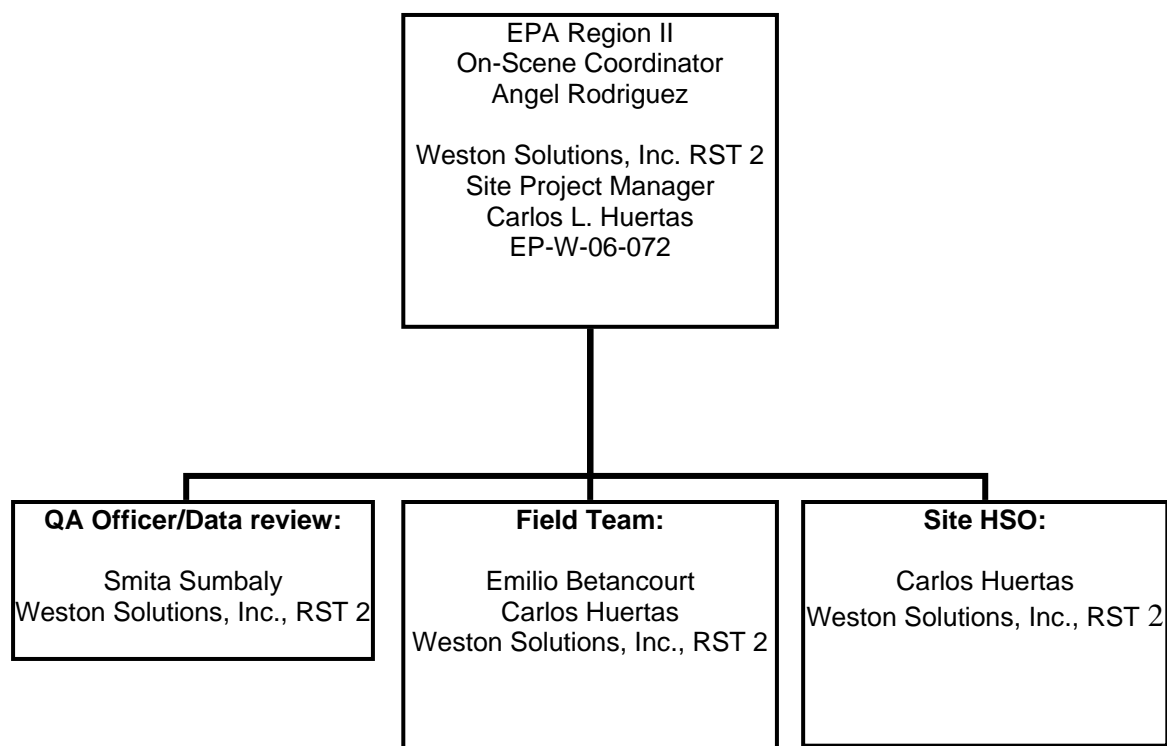
[Copies of this form signed by key project personnel from each organization to indicate that they have read the applicable sections of the site-specific QAPP and will perform the tasks as described; add additional sheets as required. Ask each organization to forward signed sheets to the central project file.]

Organization: Weston Solutions, Inc., RST 2

| Project Personnel | Title | Telephone Number | Signature | Date QAPP Read |
|--------------------|--------------------------------------|------------------|-----------|----------------|
| Angel Rodriguez | EPA, Region II, On-Scene Coordinator | (787) 671-8093 | | |
| Carlos L Huertas | Site Project Manager, RST 2 | (787)256-2501 | | |
| Smita Sumbaly | QAO, RST 2 | (732) 585-4410 | | |
| Timothy Benton | HSO, RST 2 | (732) 585-4425 | | |
| Emilio Bentancourt | Field Support, RST 2 | (787)256-2501 | | |

QAPP Worksheet #5: Project Organizational Chart

Identify reporting relationship between all organizations involved in the project, including the lead organization and all contractor and subcontractor organizations. Identify the organizations providing field sampling, on-site and off-site analysis, and data review services, including the names and telephone numbers of all project managers, project team members, and/or project contacts for each organization.



Acronyms:

SPM: Site Project Manager
HSO: Health & Safety Officer

QAPP Worksheet #6: Communication Pathways

| Communication Drivers | Responsible Entity | Name | Phone Number | Procedure |
|-----------------------------------|-----------------------------------------------------|---------------------|---------------------|--------------------------------------------------------------------------------------------------------|
| Point of contact with EPA OSC | Site Project Manager, Weston Solutions, Inc., RST 2 | Carlos Huertas, SPM | (787)256-2501 | All technical, QA and decision-making matters in regard to the project (verbal, written or electronic) |
| Adjustments to QAPP | Site Project Manager, Weston Solutions, Inc., RST 2 | Carlos Huertas, SPM | (787)256-2501 | QAPP approval dialogue |
| Health and Safety On-Site Meeting | Site Project Manager, Weston Solutions, Inc., RST 2 | Carlos Huertas, SPM | (787)256-2501 | Explain/ review site hazards, personnel protective equipment, hospital location, etc. |

OSC: On-Scene Coordinator
SPM: Site Project Manager

QAPP Worksheet #7: Personnel Responsibilities and Qualifications Table

| Name | Title | Organizational Affiliation | Responsibilities | Education and Experience Qualifications |
|---------------------|-----------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Angel Rodriguez | EPA On-Scene Coordinator | EPA, Region II | Task monitoring, project coordination, and decision making under OSC's supervision | NA |
| Carlos Huertas, SPM | Site Project Manager, RST 2 | Weston Solutions, Inc. | Implementing and executing the technical, QA and health and safety during sampling event and sample management. | 5 years |
| Emilio Betancourt | Field Personnel, RST 2 | Weston Solutions, Inc. | Sample collection and sample management | 5 years |

*All RST 2 members, including subcontractor's resumes are in possession of RST 2 Program Manager, EPA Project Officer, and Contracting officers.

QAPP Worksheet #8: Special Personnel Training Requirements Table

| Project Function | Specialized Training By Title or Description of Course | Training Provider | Training Date | Personnel / Groups Receiving Training | Personnel Titles / Organizational Affiliation | Location of Training Records / Certificates¹ |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|
| [Specify location of training records and certificates for samplers] | | | | | | |
| QAPP Training | This training is presented to all RST 2 personnel to introduce the provisions, requirements, and responsibilities detailed in the UFP QAPP. The training presents the relationship between the site-specific QA Project Plans (QAPPs), SOPs, work plans, and the Generic QAPP. QAPP refresher training will be presented to all employees following a major QAPP revision. | Weston Solutions, Inc., QAO | As needed | All RST 2 field personnel upon initial employment and as refresher training | Weston Solutions, Inc. | Weston Solutions, Inc., EHS Database |
| Health and Safety Training | Health and safety training will be provided to ensure compliance with Occupational Safety and Health Administration (OSHA) as established in 29 CFR 1910.120. | Weston Solutions, Inc., HSO | Yearly at a minimum | All Employees upon initial employment and as refresher training every year | Weston Solutions, Inc. | Weston Solutions, Inc., EHS Database |
| Others | FORMS II Lite, Scribe, ICS 100 and 200, and Air Monitoring Equipment Trainings provided to all employees | Weston Solutions, Inc., QAO/Group Leader's | Upon initial employment and as needed | | | |
| | Dangerous Goods Shipping | Weston Solutions, Inc., HSO | Every 2 years | | | |

All team members are trained in the concepts and procedures in recognizing opportunities for continual improvement, and the approaches required to improve procedures while maintaining conformance with legal, technical, and contractual obligations.

¹ All RST 2 members, including subcontractor's certifications are in possession of RST 2 HSO.

QAPP Worksheet #9: Project Scoping Session Participants Sheet

Site Name/Project Name: Minillas Government Complex Asbestos Emergency Response Assessment

Site Location: San Juan, Puerto Rico

Operable Unit: 00

Date of Sessions: 5/16/2012

Scoping Session Purpose: To discuss questions, comments, and assumptions regarding technical issues involved with the project.

| Name | Title | Affiliation | Phone # | E-mail Address | *Project Role |
|------------------|----------------------|------------------------|----------------|--------------------------------------------------------------------------------------------|--------------------|
| Angel Rodriguez | EPA OSC | EPA, Region II | (787) 671-8093 | Rodriguez.Angel@epa.mail.epa.gov | OSC |
| Carlos L Huertas | Site Project Manager | Weston Solutions, Inc. | (787) 256-2501 | Carlos.Huertas@Westonsolutions.com | Project Management |

Comments/Decisions: The wipe, dust and bulk asbestos sampling event to be conducted as part of the Emergency Response was conducted at the Centro Minillas Asbestos (the Site) on May 16, 2012. Weston Solutions, Inc., Removal Support Team 2 (RST 2) has been tasked with the collection of the following matrices: up to 20 wipe samples collected from throughout the Site and submitted for asbestos analysis, via the ASTM 6480-05 method; the collection of up to 10 bulk asbestos samples to be collected from throughout the Site and submitted for asbestos analysis, via the PLM U.S. Environmental Protection Agency (EPA) Method 600/R-93/116 and/or EPA 600/M4-82-020; and the collection of up to four dust samples to be collected from product of the personnel decontamination activities for asbestos analysis, via the Environmental Protection Agency (EPA) Method 600/R-93/116 and/or EPA 600/M4-82-020. Field duplicate samples will not be collected as part of this sampling event. Samples were submitted for a 24-hrs Turn Around Time (TAT)

Action Items: Verbal information was received on May 16, 2012. r analytical services was obtain on May 16, 2012. An Analytical Request Form was received on May 17, 2012.

Consensus Decisions: Sampling was on May 16, 2012 and completed in one day. An analytical form will be signed by the OSC on May 17, 2012. See the comments/decisions section of this report for a detailed summary of matrices and analysis.

QAPP Worksheet #10: Problem Definition

PROBLEM DEFINITION

EPA activated RST 2 to respond to an Emergency Response consisting of the collection of samples on a Puerto Rico government building. RST 2 is tasked with the collection of wipe, dust, and bulk asbestos samples from throughout the Site which will be submitted for asbestos analysis.

SITE HISTORY/CONDITIONS

Roberto Sánchez Vilella Governmental Center, formerly known as Centro Minillas, is recognized as the largest complex of government offices in all Puerto Rico. It contains the headquarters of a number of agencies and public entities such as the Planning Board, the Authority of Public Buildings, the Department of Transportation and Public Works, the Authority of Roads and Transportation and the Government among others. The Site is located at Ave. De Diego, Parada 22. Santurce, PR.

The EPA was notified that during the remodeling activities being conducted on the ninth floor of the North Tower, construction materials possibly containing asbestos were removed without following the appropriate practices. The material was removed and transported in a service elevator to an area outside of the building. Once the building management realized their error, the material was transported through common areas back to the ninth floor. EPA tasked RST 2 to collect samples on various floors of the buildings to confirm the migration of asbestos fibers.

PROJECT DESCRIPTION

EPA tasked RST 2 to collect samples on various floors of the buildings to confirm the migration, of asbestos fibers, to different areas of the building.

PROJECT DECISION STATEMENTS

1. Sampling will be conducted by RST 2 to identify/confirm the presence of on-site asbestos. The data will be used by EPA to determine if a removal action is conducted.

QAPP Worksheet # 11: Project Quality Objectives/Systematic Planning Process Statement

Overall project objectives include: Sampling will be conducted by RST 2 to identify/confirm the presence of on-site asbestos. The data will be used by EPA to determine if a removal action is conducted.

Who will use the data? Data will be used by the EPA, Region II OSC.

What will the data be used for? Data from this sampling event will be used to determine if on-site materials contain asbestos.

What types of data are needed?

Matrix: Wipes, dust and bulk Asbestos

Type of Data: Screening data

Analytical Techniques: Off-site laboratory analyses

Parameters: Asbestos, EPA 600/R-93 and ASTM 6480-05 methods.

Type of sampling equipments: To be determined based on the type of material sampled.

Access Agreement: Obtained by EPA, Region II OSC.

Sampling locations: Various locations throughout the property.

How much data are needed? Approximately 20 wipes, four dust and ten bulk asbestos samples will be collected.

How “good” does the data need to be in order to support the environmental decision?

Screening data with definitive confirmation (no field duplicate) analytical objective has been requested. Screening data will support and intermediate or preliminary decision and to identify/confirm the presence of Asbestos on site.

Where, when, and how should the data be collected/generated? On-site sampling locations will be determined by the EPA OSC. Sampling is scheduled to begin on May 16, 2012.

Who will collect and generate the data? The samples will be collected by RST 2. Samples will be analyzed by an RST 2-procured laboratory and validated by an RST 2 data validator.

How will the data be reported? All data will be reported by the assigned laboratories (Preliminary, Electronics, and Hard Copy format). The Site Project Manager will provide a Sampling Trip Report, Status Reports, Maps/Figures, Analytical Report, and Data Validation Report to the EPA OSC.

How will the data be archived? Electronic data deliverables will be archived in the scribe database.

QAPP Worksheet #12: Measurement Performance Criteria Table

Worksheet # 12A: Asbestos-PLM – EPA Method 600/R-93/116

(UFP-QAPP Manual Section 2.6.2)

| Matrix | | Bulk | | | |
|---------------------|-----------------------|--------------------------------------|------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------|
| Analytical Group | | Asbestos | | | |
| Concentration Level | | % Asbestos | | | |
| Sampling Procedure | Analytical Method/SOP | Data Quality Indicators (DQIs) | Measurement Performance Criteria | QC Sample and/or Activity Used to Assess Measurement Performance | QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A) |
| | PLM EPA 600/R-93/116 | Precision (field) | Not Determined | *Field Duplicate | S & A |
| | | <u>Negative Control</u> (field) | No analyte <DL | Field Blank | S & A |
| | | Precision (laboratory) | Varies by lab and asbestos concentration | Laboratory Duplicate | A |
| | | Accuracy (laboratory) | Varies by lab and asbestos concentration | Standard Reference Sample | A |
| | | <u>Negative Control</u> (laboratory) | No analyte > DL | Method Blank | A |

***Field duplicates samples will not be collected. Due to screening data QA objective**

QAPP Worksheet #12: Measurement Performance Criteria Table

Worksheet # 12B: Asbestos-PLM – EPA Method 600/R-93/116

(UFP-QAPP Manual Section 2.6.2)

| Matrix | | Dust | | | |
|---------------------|-----------------------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------|
| Analytical Group | | Asbestos | | | |
| Concentration Level | | % Asbestos | | | |
| Sampling Procedure | Analytical Method/SOP | Data Quality Indicators (DQIs) | Measurement Performance Criteria | QC Sample and/or Activity Used to Assess Measurement Performance | QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A) |
| | EPA Method 600/R-93/116 and TEM Filtration Analyses | Precision (field) | Not Determined | *Field Duplicate | S & A |
| | | <u>Negative Control</u> (field) | No analyte <DL | *Field Blank | S & A |
| | | Precision (laboratory) | Varies by lab and asbestos concentration | Laboratory Duplicate | A |
| | | Accuracy (laboratory) | Varies by lab and asbestos concentration | Standard Reference Sample | A |
| | | <u>Negative Control</u> (laboratory) | No analyte > DL | Method Blank | A |

***Field duplicates samples will not be collected. Due to screening data QA objective**

QAPP Worksheet #12: Measurement Performance Criteria Table

Worksheet # 12C: Asbestos – ASTM 6480-05 Method
(UFP-QAPP Manual Section 2.6.2)

| Matrix | | Wipes | | | |
|---------------------|-----------------------|--------------------------------------|------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------|
| Analytical Group | | Asbestos | | | |
| Concentration Level | | Structutes/cm ² | | | |
| Sampling Procedure | Analytical Method/SOP | Data Quality Indicators (DQIs) | Measurement Performance Criteria | QC Sample and/or Activity Used to Assess Measurement Performance | QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A) |
| | ASTM 6480-05 | Precision (field) | Not Determined | *Field Duplicate | S & A |
| | | <u>Negative Control</u> (field) | No analyte <DL | Field Blank | S & A |
| | | Precision (laboratory) | Varies by lab and asbestos concentration | Laboratory Duplicate | A |
| | | Accuracy (laboratory) | Varies by lab and asbestos concentration | Standard Reference Sample | A |
| | | <u>Negative Control</u> (laboratory) | No analyte > DL | Method Blank | A |

***Not required for wipe matrix and will not be collected.**

QAPP Worksheet #13: Secondary Data Criteria and Limitations Table

Any data needed for project implementation or decision making that are obtained from non-direct measurement sources such as computer databases, background information, technologies and methods, environmental indicator data, publications, photographs, topographical maps, literature files and historical data bases will be compared to the DQOs for the project to determine the acceptability of the data. Thus, for example, analytical data from historical surveys will be evaluated to determine whether they satisfy the validation criteria for the project and to determine whether sufficient data was provided to allow an appropriate validation to be done. If not, then a decision to conduct additional sampling for the site may be necessary.

| Secondary Data | Data Source (Originating Organization, Report Title, and Date) | Data Generator(s) (Originating Org., Data Types, Data Generation/ Collection Dates) | How Data May Be Used (if deemed usable during data assessment stage) | Limitations on Data Use |
|-----------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------|
| Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

QAPP Worksheet #14: Summary of Project Tasks

Sampling Tasks: Approximately 20 wipes, four dust and 10 bulk asbestos samples will be collected from throughout the Site and be submitted for asbestos analysis.

Analysis Tasks:

Asbestos EPA 600/R-93/116 – Dust and Bulk
ASTM 6480-05 Method – Wipes
TEM Filtration - Dust

Quality Control Tasks: A laboratory blank will be submitted for quality control purposes.

Data Management Tasks: The data collected for the sampling activities will be organized, analyzed, and summarized in status and trip reports and other deliverables (e.g., analytical reports, final reports) that will be submitted to the OSC according to the Project Schedule. The reports will be prepared by the project manager and include appropriate data quality assessment. Standard methods and references will be used as guidelines for data reduction and reporting.

Documentation and Records: Field notebook, sample labels, custody seals, chain of custody, sample logs, etc.

All sample documents will be completed legibly, in ink. Any corrections or revisions will be made by lining through the incorrect entry and by initialing the error.

The following deliverables will be provided under this project:

Trip Report: A trip report will be prepared to provide a detailed accounting of what occurred during the sampling mobilization. The trip report will be prepared within 2 weeks of the last day of the sampling mobilization. Information will be provided on time of major events, dates, and personnel on-site (including affiliations).

Maps/Figures: Maps depicting site layout, contaminant source areas, and sample locations will be included in the trip report, as appropriate.

QAPP Worksheet #14: Summary of Project Tasks (Concluded)

Field Logbook: The field logbook is essentially a descriptive notebook detailing site activities and observations so that an accurate account of field procedures can be reconstructed in the writer's absence. The field logbook will be bound and paginated. All entries will be dated and signed by the individuals making the entries, and should include (at a minimum) the following:

1. Site name and project number
2. Name(s) of personnel on-site
3. Dates and times of all entries (military time preferred)
4. Descriptions of all site activities, site entry and exit times
5. Noteworthy events and discussions
6. Weather conditions
7. Site observations
8. Sample and sample location identification and description *
9. Subcontractor information and names of on-site personnel
10. Date and time of sample collections, along with chain of custody information
11. Record of photographs
12. Site sketches

* The description of the sample location will be noted in such a manner as to allow the reader to reproduce the location in the field at a later date.

Sample Labels: Sample labels will clearly identify the particular sample, and should include the following:

1. Site/project number.
2. Sample identification number.
3. Sample collection date and time.
4. Designation of sample (grab or composite).
5. Sample preservation.
6. Analytical parameters.
7. Name of sampler.

Sample labels will be written in indelible ink and securely affixed to the sample container. Tie-on labels can be used if properly secured.

Custody Seals: Custody seals demonstrate that a sample container has not been tampered with or opened. The individual in possession of the sample(s) will sign and date the seal, affixing it in such a manner that the container cannot be opened without breaking the seal. The name of this individual, along with a description of the sample packaging, will be noted in the field logbook.

Assessment/Audit Tasks: No performance audit of field operations is anticipated at this time. If conducted, performance and systems audits will be in accordance with the project plan.

Data Review Tasks: All data will be validated by RST 2 data validator.

QAPP Worksheet #15A: Reference Limits and Evaluation Table

Matrix: Wipes

Analytical Group: Asbestos

Concentration Level: Low

| Analyte | CAS Number | Project Quantitation Limit (str/cm²) | Analytical Method – ASTM 6480-05 Method Quantitation Limits |
|-----------------------------------|-------------------|----------------------------------------------------------------|------------------------------------------------------------------------|
| Asbestos, via ASTM 6480-05 Method | NA | NS | <2.99 structures |

NA = Not Applicable; NS = Not Specified

QAPP Worksheet #15B: Reference Limits and Evaluation Table

Matrix: Dust

Analytical Group: Asbestos

Concentration Level: Low

| Analyte | CAS Number | Project Quantitation Limit (%) | Analytical Method Quantitation Limits |
|-------------------------------------------------|-------------------|-----------------------------------------------|--------------------------------------------------|
| Asbestos, via the EPA 600/R-93/116 Method | NA | NS | 1 Asbestos Structure per are analyzed |
| Asbestos via TEM- Qualitative Filtration Method | NA | NS | Type of asbetsos |

NA = Not Applicable; NS = Not Specified

QAPP Worksheet #15C: Reference Limits and Evaluation Table

Matrix: Bulk Asbestos

Analytical Group: Asbestos

Concentration Level: Low

| Analyte | CAS Number | Project Quantitation Limit (%) | Analytical Method – EPA 600/R- 93/116 Quantitation Limits (%) |
|-------------------------------------------|-------------------|-----------------------------------------------|--------------------------------------------------------------------------|
| Asbestos, via the EPA 600/R-93/116 Method | NA | NS | <1% |

NA = Not Applicable; NS = Not Specified

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QAPP Worksheet #16: Project Schedule/Timeline Table

| Activities | Organization | Dates (MM/DD/YY) | | Deliverable | Deliverable Due Date |
|----------------------------------------------|----------------------------------------------------------------|-----------------------------------|--------------------------------|----------------------|----------------------|
| | | Anticipated Date(s) of Initiation | Anticipated Date of Completion | | |
| Preparation of QAPP | RST 2 Contractor Site Project Manager | Prior to sampling date | 5/18/2012 | QAPP | 5/25/2012 |
| Review of QAPP | RST 2 Contractor QAO and/or Group Leader | Prior to sampling date | 5/22/2012 | Approved QAPP | 5/25/2012 |
| Preparation of Health and Safety Plan | RST 2 Contractor Site Project Manager | Prior to sampling date | 5/16/2012 | HASP | 5/16/2012 |
| Procurement of Field Equipment | RST 2 Contractor Site Project Manager and/or Equipment Officer | Prior to sampling date | NA | NA | NA |
| Laboratory Request | RST 2 Contractor Site Project Manager and/or QAO | Prior to sampling date | 5/17/2012 | Non-CLP Request Form | NA |
| Field Reconnaissance/Access | RST 2 Contractor Site Project Manager; or EPA Region II OSC | NA | NA | NA | NA |
| Collection of Field Samples | RST 2 Contractor Site Project Manager | 5/16/2012 | 5/16/2012 | NA | NA |
| Laboratory Electronic Data Received | RST 2-procured Laboratory | 5/19/2012 | -- | 5/19/2012 | 5/19/2012 |
| Laboratory Package Received | RST 2-procured Laboratory | 6/4/2012 | -- | -- | -- |
| Validation of Laboratory Results | RST 2-procured Laboratory | 6/15/2012 | -- | 7/1/2012 | 7/1/2012 |
| Data Evaluation/ Preparation of Final Report | RST 2 Contractor Site Project Manager | 7/15/2012 | 8/1/2012 | 8/1/2012 | 8/1/2012 |

QAPP Worksheet #17: Sampling Design and Rationale

Approximately 20 wipes, four dust and 10 bulk asbestos samples will be collected from throughout the Site and be submitted for asbestos analysis, via the EPA 600/R-93/116 Method using Polarized Light Microscopy and ASTM 6480-05. This sampling design is based on information currently available and may be modified on-site in light of field-screening results and other acquired information. Samples will be collected using dedicated sampling equipment and placed in poly bags; therefore; no equipment decontamination will be required.

The following laboratories will provide the analyses indicated:

| Lab Name/Location | Sample Type | Parameters |
|-----------------------------------------------------------------------|----------------------------------|------------|
| EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | Wipes, Dust and bulk Asbestos | Asbestos |

Refer to Worksheet #20 for QA/QC samples, sampling methods and SOP.

QAPP Worksheet #18: Sampling Locations and Methods/SOP Requirements Table

| Matrix | Sampling Location(s) | Units | Analytical Group(s) | Concentration Level | No. of Samples (identify field duplicates) | Sampling SOP Reference | Rationale for Sampling Location |
|---------------|-----------------------------|------------------------|--------------------------------------------------------------------------|----------------------------|---------------------------------------------------|-------------------------------|----------------------------------------|
| Wipes | 20 | (str/cm ²) | Asbestos ASTM 6480-05 Method | Low | 20 | ERT SOP #2001 | Site Contamination Investigation |
| Dust | 4 | % asbestos | Asbestos (EPA 600/R-93/116 Method) and TEM Qualitative Filtration Method | Low | 4 | ERT SOP #2001 | Site Contamination Investigation |
| Bulk Samples | 10 | % asbestos | Asbestos (EPA 600/R-93/116 Method) | Low | 10 | ERT SOP #2001 | Site Contamination Investigation |

The website for EPA-ERT SOPs is: <http://www.ert.org/mainContent.asp?section=Products&subsection=List>

QAPP Worksheet #19: Analytical SOP Requirements Table

| Matrix | No. of Samples | Analytical Group [Lab Assignment] | Concentration Level | Analytical and Preparation Method/SOP Reference | Sample Volume | Containers (number, size, and type) | Preservation Requirements | Maximum Holding Time (preparation/analysis) |
|---------------|-----------------------|--------------------------------------------------------------------------|----------------------------|--------------------------------------------------------|----------------------|--------------------------------------------|----------------------------------|----------------------------------------------------|
| Wipes | 20 | Asbestos ASTM 6480-05 Method | Low | Asbestos ASTM 6480-05 Method | NA | 1 Poly Bag | NA | NA |
| Dust | 4 | Asbestos (EPA 600/R-93/116 Method) and TEM Qualitative Filtration Method | Low | Asbestos (EPA 600/R-93/116 Method) | NA | 1 Poly Bag | NA | NA |
| Bulk Samples | 10 | Asbestos (EPA 600/R-93/116 Method) | Low | Asbestos (EPA 600/R-93/116 Method) | NA | 1 Poly Bag | NA | NA |

QAPP Worksheet #20: Field Quality Control Sample Summary Table

| Matrix | Analytical Group | Concentration Level | Analytical and Preparation SOP Reference | No. of Sampling Locations | No. of Field Duplicate Pairs¹ | No. of Extra Volume Laboratory QC (e.g., MS/MSD) Samples | No. of Rinsate Blanks | No. of Trip. Blanks | No of PE Samples | Total No. of Samples to Lab |
|---------------|------------------------------------|----------------------------|-------------------------------------------------|----------------------------------|-------------------------------------------------|-----------------------------------------------------------------|------------------------------|----------------------------|-------------------------|------------------------------------|
| Wipes | Asbestos (ASTM 6480-05 Method) | Low | Asbestos (ASTM 6480-05 Method) | 20 | NR | * | NR | NR | NR | 20 |
| Dust | Asbestos (EPA 600/R-93/116 Method) | Low | Asbestos (EPA 600/R-93/116 Method) | 4 | NR | * | NR | NR | NR | 4 |
| Bulk Samples | Asbestos (EPA 600/R-93/116 Method) | Low | Asbestos (EPA 600/R-93/116 Method) | 10 | NR | * | NR | NR | NR | 10 |

¹Field duplicate sample not collected due to samples collected for screening data QA objectives

*MS/MSD analysis not required for asbestos analysis.

NR – not required

QAPP Worksheet #21: Project Sampling SOP References Table

| Reference Number | Title, Revision Date and/or Number | Originating Organization | Equipment Type | Modified for Project Work? (Y/N) | Comments |
|-------------------------|-------------------------------------------|---------------------------------|----------------------------------------------------|-----------------------------------------|-----------------|
| ERT SOP #2001 | General Field Sampling Guidelines | EPA/OSWER/ERT | To be determined based on type of material sampled | N | -- |
| ERT SOP #2011 | Chip, Wipe and Sweep Sampling | EPA/OSWER/ERT | To be determined based on type of material sampled | N | -- |
| ERT SOP #2012 | Soil Sampling | EPA/OSWER/ERT | To be determined based on type of material sampled | N | -- |

See attachment B for SOP # 2001, 2011 and 2012

Note: The website for EPA-ERT SOPs is: www.ert.org/mainContent.asp?section=Products&subsection=List

QAPP Worksheet #22: Field Equipment Calibration, Maintenance, Testing, and Inspection Table

| Field Equipment | Calibration Activity | Maintenance Activity | Testing/ Inspection Activity | Frequency | Acceptance Criteria | Corrective Action | Responsible Person | SOP Reference |
|-----------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|-------------------------------------|------------------------------------------------------|----------------------------|----------------------------------|---------------------------|----------------------|
| MultiRAE Plus PID and Cyanide sensor (10.6 EV Lamp) | Calibrate with Zero air; span gas of 100 ppm Isobutylene | Check/ replace battery/ Clean tip or bulb if necessary | Bump Test | Prior to day's activities; anytime anomaly suspected | +/- 5 units | Replace battery, or Replace Unit | Equipment Vendor | NA |

QAPP Worksheet #23 Analytical SOP References Table

| Reference Number | Title, Revision Date, and/or Number | Definitive or Screening Data | Analytical Group | Instrument | Organization Performing Analysis | Modified for Project Work? (Y/N) |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------|----------------------------------|-----------------------------------------------------------------------|-----------------------------------------|
| EPA 600/R-93/116 | EPA Test Method for the Determination of Asbestos in Bulk Building Materials, July, 1993 | Screening | Asbestos (PLM Method) | Polarized Light Microscope | EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | N |
| ASTM 6480-05 Method | Standard Test Method for Wipe Sampling of Surfaces, Indirect Preparation, and Analysis for Asbestos Structure Number Concentration, may 2012 | Screening | Asbestos TEM method | Transmission Electron Microscopy | EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | N |

QAPP Worksheet #24: Analytical Instrument Calibration Table

| Instrument | Calibration Procedure | Frequency of Calibration | Acceptance Criteria | Corrective Action (CA) | Person Responsible for CA | SOP Reference |
|----------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------|----------------------|
| Polarized Light Microscope (PLM) | Microscope alignment | The PLM should be aligned daily to achieve illumination and centered through the substance condenser and iris diaphragm. | As per instrument manufacture's recommended procedures. | Inspect the system, correct problem, re-calibrate, and re-analyze samples. | Non-CLP Laboratory Microscope Technician | EPA 600/R-93/116 |
| Transmission Electron Microscope (TEM) | Microscope alignment | Daily | As per instrument manufacture's recommended procedures. | Inspect the system, correct problem, re-calibrate, and re-analyze samples. | Non-CLP Laboratory Microscope Technician | ASTM 6480-05 Method |

QAPP Worksheet #25: Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table

| Instrument/ Equipment | Maintenance Activity | Testing/Inspection Activity | Frequency | Acceptance Criteria | Corrective Action | Responsible Person | SOP Reference¹ |
|----------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| Polarized Light Microscope (PLM) | See EPA 600/R-93/116; as per instrument manufacturer's recommendations | See EPA 600/R-93/116; as per instrument manufacturer's recommendations | See EPA 600/R-93/116; as per instrument manufacturer's recommendations | Acceptable re-calibration; See EPA 600/R-93/116 | Inspect the system, correct problem, re-calibrate and/or reanalyze samples. | Non-CLP Laboratory Microscope Technician | EPA 600/R-93/116 |
| Transmission Electron Microscope (TEM) | See ASTM 6480-05; as per instrument manufacturer's recommendations | See ASTM 6480-05; as per instrument manufacturer's recommendations | See ASTM 6480-05; as per instrument manufacturer's recommendations | Acceptable re-calibration; See ASTM 6480-05 | Inspect the system, correct problem, re-calibrate and/or reanalyze samples. | Non-CLP Laboratory Microscope Technician | ASTM 6480-05 |

QAPP Worksheet #26: Sample Handling System

| |
|-------------------------------------------------------------------------------------------------------------------------|
| SAMPLE COLLECTION, PACKAGING, AND SHIPMENT |
| Sample Collection (Personnel/Organization): RST 2 Site Project Manager, Weston Solutions, Inc., Region II |
| Sample Packaging (Personnel/Organization): RST 2 Site Project Manager, Weston Solutions, Inc., Region II |
| Coordination of Shipment (Personnel/Organization): RST 2 Site Project Manager, Weston Solutions, Inc., Region II |
| Type of Shipment/Carrier: FedEx |
| SAMPLE RECEIPT AND ANALYSIS |
| Sample Receipt (Personnel/Organization): EPA Non-CLP Laboratory |
| Sample Custody and Storage (Personnel/Organization): EPA Non-CLP Laboratory |
| Sample Preparation (Personnel/Organization): EPA Non-CLP Laboratory |
| Sample Determinative Analysis (Personnel/Organization): EPA Non-CLP Laboratory |
| SAMPLE ARCHIVING |
| Field Sample Storage (No. of days from sample collection): Not Applicable |
| Sample Extract/Digestate Storage (No. of days from extraction/digestion): Not Applicable |
| Biological Sample Storage (No. of days from sample collection): N/A |
| SAMPLE DISPOSAL |
| Personnel/Organization: Sample Technicians, Non-CLP Laboratories |
| Number of Days from Analysis: 30 days after analytical data package completed. |

QAPP Worksheet #27: Sample Custody Requirements

Sample Identification Procedures: Each sample will be labeled with the site identification code and a sample type letter code and number that depicts a specific location. Each sample will also be labeled with a Non-CLP assigned number. Depending on the type of sample, additional information such as depth, sampling round, date, etc. will be added. Examples of matrices are: W = Wipes; ACM = Asbestos; DT = Dust.

Example sample locations are:

Asbestos (Wipes) will be designated as: W-0001-001 (Wipe, location 001, sample 001)

Asbestos (Bulk) will be designated as: ACM-001-001 (Bulk, location 001, sample 001)

Asbestos (Dust) will be designated as: DT-001-001 (Dust, location 001, sample 001))

Location of the sample collected will be recorded in the project database and site logbook. Each sample will also be labeled with a Non-CLP assigned number. Depending on the type of sample, additional information such as sampling round, date, etc. will be added.

Field Sample Custody Procedures (sample collection, packaging, shipment, and delivery to laboratory): Each sample will be individually identified and labeled after collection, then sealed with custody seals and enclosed in a plastic cooler. The sample information will be recorded on chain-of custody (COC) forms, and the samples shipped to the appropriate laboratory via overnight delivery service or courier. Chain-of-custody records must be prepared in Scribe to accompany samples from the time of collection and throughout the shipping process. Each individual in possession of the samples must sign and date the sample COC Record. The chain-of-custody record will be considered completed upon receipt at the laboratory. A traffic report and chain-of-custody record will be maintained from the time the sample is taken to its final deposition. Every transfer of custody must be noted and signed for, and a copy of this record kept by each individual who has signed. When samples are not under direct control of the individual responsible for them, they must be stored in a locked container sealed with a custody seal. Specific information regarding custody of the samples projected to be collected on the weekend will be noted in the field logbook. The chain-of-custody record should include (at minimum) the following: 1) Sample identification number; 2) Sample information; 3) Sample location; 4) Sample date; 5) Sample Time; 6) Sample Type Matrix; 7) Sample Container Type; 8) Sample Analysis Requested; 9) Name(s) and signature(s) of sampler(s); and 10) Signature(s) of any individual(s) with custody of samples.

A separate chain-of-custody form must accompany each cooler for each daily shipment. The chain-of-custody form must address all samples in that cooler, but not address samples in any other cooler. This practice maintains the chain-of-custody for all samples in case of mis-shipment.

QAPP Worksheet #27: Sample Custody Requirements (Concluded)

Laboratory Sample Custody Procedures (receipt of samples, archiving, and disposal): Within the laboratory, the person responsible for sample receipt must sign and date the chain-of-custody form; verify that custody seals are intact on shipping containers; compare samples received against those listed on the chain-of-custody form; examine all samples for possible shipping damage and improper sample preservation; note on the chain-of-custody record that specific samples were damaged; notify sampling personnel as soon as possible so that appropriate samples may be regenerated; verify that sample holding times have not been exceeded; maintain laboratory chain-of-custody documentation; and place the samples in the appropriate laboratory storage. At this time, no samples will be archived at the laboratory. Disposal of the samples will occur only after analyses and QA/QC checks are completed.

Note: Refer to Contract Laboratory Program Guidance for Field Samplers, EPA-540-R-07-06, July 2007 at:
http://www.epa.gov/superfund/programs/clp/download/sampler/clp_sampler_guidance.pdf

QAPP Worksheet #29 Project Documents and Records Table

| Sample Collection Documents and Records | On-Site Analysis Documents and Records | Data Assessment Documents and Records | Other |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Site logbooks • COC forms • Field Data Sheets • Airbills | <ul style="list-style-type: none"> • Samples receipt logs • Internal and external COC forms • Equipment calibration logs • Sample preparation worksheets/logs • Sample analysis worksheet/run logs • Telephone/email logs • Corrective action documentation | <ul style="list-style-type: none"> • Data validation reports • Field inspection checklist(s) • Laboratory Audit checklist (if performed) • Review forms for electronic entry of data into database • Corrective action documentation | <ul style="list-style-type: none"> • Non-CLP Analytical Service Request Form |

QAPP Worksheet #30: Analytical Services Table

| Matrix | Analytical Group | Concentration Level | Analytical SOP | Data Package Turnaround Time | Laboratory/Organization (Name and Address, Contact Person and Telephone Number) | Backup Laboratory/Organization (Name and Address, Contact Person and Telephone Number) |
|---------------|------------------------------------|----------------------------|-----------------------|-------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Wipes | Asbestos (ASTM 6480-05 Method) | Low | ASTM 6480-05 Method | 24 hours verbal 1 week written | EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | NA |
| Dust | Asbestos (EPA 600/R-93/116 Method) | Low | EPA 600/R-93/116 | 24 hours verbal 1 week written | EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | NA |
| Bulk Asbestos | Asbestos (EPA 600/R-93/116 Method) | Low | EPA 600/R-93/116 | 24 hours verbal 1 week written | EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077 | NA |

QAPP Worksheet #31 Planned Project Assessments Table

| Assessment Type | Frequency | Internal or External | Organization Performing Assessment | Person(s) Responsible for Performing Assessment (Title and Organizational Affiliation) | Person(s) Responsible for Responding to Assessment Findings (Title and Organizational Affiliation) | Person(s) Responsible for Identifying and Implementing Corrective Actions (Title and Organizational Affiliation) | Person(s) Responsible for Monitoring Effectiveness of Corrective Actions (Title and Organizational Affiliation) |
|------------------------------|------------------|-----------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Laboratory Technical Systems | Every Year | External | Regulatory Agency | Regulatory Agency | Non-CLP Laboratory | Non-CLP Laboratory | EPA or other Regulatory Agency |
| Peer Review | Each Deliverable | Internal | Weston Solutions, Inc. | QAO, Group Leader, and Readiness Coordinator | SPM, Weston Solutions, Inc. | SPM, Weston Solutions, Inc. | EPA OSC and/or EPA QAO |

QAPP Worksheet #32 Assessment Findings and Corrective Action Responses

| Assessment Type | Nature of Deficiencies Documentation | Individual(s) Notified of Findings (name, title, organization) | Timeframe of Notification | Nature of Corrective Action Response Documentation | Individual(s) Receiving Corrective Action Response (name, title, organization) | Timeframe for Response |
|-------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------|
| Project Readiness Review | Checklist or logbook entry | Carlos Huertas, Weston Solutions, Inc., RST 2 | Immediately to within 24 hours of review | Checklist or logbook entry | Carlos Huertas, Weston Solutions, Inc., RST 2 | Immediately to within 24 hours of review |
| Field Observations/Deviation from Sampling Plan | Logbook | Carlos Huertas, Weston Solutions, Inc., RST 2 and EPA OSC | Immediately to within 24 hours of review | Logbook and revision to the QAPP and/or Corrective Action Plan | Carlos Huertas, Weston Solutions, Inc., RST 2. EPA OSC and auditor | Immediately to within 24 hours of review |
| Laboratory Technical Systems/Performance Audit | Written Report | Non-CLP Laboratory QAO | 30 days | Letter | Non-CLP Laboratory | 14 days |

QAPP Worksheet #33 QA Management Reports Table

| Type of Report | Frequency (daily, weekly monthly, quarterly, annually, etc.) | Projected Delivery Date(s) | Person(s) Responsible for Report Preparation (title and organizational affiliation) | Report Recipient(s) (title and organizational affiliation) |
|------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Site-Specific QAPP | As performed | Prior to sampling date | Carlos Huertas, Weston Solutions, Inc., RST 2 | EPA OSC |
| Health And Safety plan | As performed | Prior to sampling date | Carlos Huertas, Weston Solutions, Inc., RST 2 | EPA OSC |
| Trip Report (maps, photos,...etc.) | As performed | Within 5 days of sample completion | Carlos Huertas, Weston Solutions, Inc., RST 2 | EPA OSC and Weston Solutions, Inc., RST 2 data validator |
| Non-CLP laboratory data (Preliminary) | As performed | ASAP after receipt of preliminary data | Non-CLP Laboratory | Site Project Manager and EPA OSC |
| Non-CLP laboratory data (validated) | As performed | Up to 21 days after receipt of unvalidated data | Data Validator, Weston Solutions, Inc., RST 2 | Site Project Manager, and EPA OSC |
| Final Report | As specified in the site TDD | 2 to 4 weeks after receipt of validated of data package | Carlos Huertas, Weston Solutions, Inc., RST 2 | EPA OSC |

QAPP Worksheet #34: Verification (Step I) Process Table

| Verification Input | Description | Internal/ External | ¹Responsible for Verification (Name, Organization) |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------|
| Site/field logbooks | Field notes will be prepared daily by the RST 2 Site Project Manager and will be complete, appropriate, legible and pertinent. Upon completion of field work, logbooks will be placed in the project files. | I | Site Project Manager, Weston Solutions, Inc. |
| Chains of custody | COC forms will be reviewed against the samples packed in the specific cooler prior to shipment. The reviewer will initial the form. An original COC will be sent with the samples to the laboratory, while copies are retained for (1) the Sampling Trip Report and (2) the project files. | I | Site Project Manager, Weston Solutions, Inc. |
| Sampling Trip Reports | STRs will be prepared for each week of field sampling. Information in the STR will be reviewed against the COC forms, and potential discrepancies will be discussed with field personnel to verify locations, dates, etc. | I | Site Project Manager, Weston Solutions, Inc. |
| Laboratory Preliminary Data | Preliminary data – limited review for either contract compliance or technical compliance. | E | EPA non-CLP laboratory |
| Laboratory analytical data package | Data packages will be reviewed/verified internally by the laboratory performing the work for completeness and technical accuracy prior to submittal. | E | EPA non-CLP laboratory |
| Laboratory analytical data package | Data packages will be reviewed as to content and sample information upon receipt by Weston Solutions, Inc., RST 2 | I | RST 2 Data Validator, Weston Solutions, Inc. |
| Final Sample Report | The project data results will be compiled in a sample report for the project. Entries will be reviewed/verified against hardcopy information. | I | Site Project Manager, Weston Solutions, Inc. |

¹ Responsible for verifications, and their name and organization will be added.

QAPP Worksheet #35: Validation (Steps IIa and IIb) Process Table

| Step IIa/IIb | Validation Input | Description | Responsible for Validation (Name, Organization) |
|---------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| IIa | SOPs | Ensure that the sampling methods/procedures outlined in QAPP were followed, and that any deviations were noted/approved. | Site Project Manager, Weston Solutions, Inc. |
| IIb | SOPs | Determine potential impacts from noted/approved deviations, in regard to PQOs. | Site Project Manager, Weston Solutions, Inc. |
| IIa | Chains of custody | Examine COC forms against QAPP and laboratory contract requirements (e.g., analytical methods, sample identification, etc.). | RST 2 Data Validator, Site Project Manager, Weston Solutions, Inc. |
| IIa | Laboratory data package | Examine packages against QAPP and laboratory contract requirements, and against COC forms (e.g., holding times, sample handling, analytical methods, sample identification, data qualifiers, QC samples, etc.). | RST 2 Data Validator, Site Project Manager, Weston Solutions, Inc. |
| IIb | Laboratory data package | Determine potential impacts from noted/approved deviations, in regard to PQOs. Examples include PQLs and QC sample limits (precision/accuracy). | RST 2 Data Validator, Site Project Manager, Weston Solutions, Inc. |

QAPP Worksheet #36: Validation (Steps IIa and IIb) Summary Table

| Step IIa/IIb | Matrix | Analytical Group | Concentration Level | Validation Criteria | Data Validator (title and organizational affiliation) |
|---------------------|---------------|------------------------------------------|----------------------------|-----------------------------------|------------------------------------------------------------------|
| IIa / IIb | Wipes | Asbestos (ASTM 6480-05 Method) | Low | As per ASTM 6480-05 Method | RST 2 Data Validation Personnel, Weston Solutions, Inc. |
| IIa / IIb | Dust | Asbestos (EPA 600/R-93/116 Method) | Low | As per EPA 600/R-93/116 Method | RST 2 Data Validation Personnel, Weston Solutions, Inc. |
| IIa / IIb | Bulk Asbestos | Asbestos (EPA 600/R-93/116 Method) | Low | As per EPA 600/R-93/116 Method | RST 2 Data Validation Personnel, Weston Solutions, Inc. |

QAPP Worksheet #37: Usability Assessment

Summarize the usability assessment process and all procedures, including interim steps and any statistics, equations, and computer algorithms that will be used: Data, whether generated in the field or by the laboratory, are tabulated and reviewed for Precision, Accuracy, Representativeness, Completeness, and Comparability (PARCCS) by the SPM for field data or the data validator for laboratory data. The review of the PARCC Data Quality Indicators (DQI) will compare with the DQO detailed in the site-specific QAPP, the analytical methods used and impact of any qualitative and quantitative trends will be examined to determine if bias exists. A hard copy of field data is maintained in a designated field or site logbook. Laboratory data packages are validated, and final data reports are generated. All documents and logbooks are assigned unique and specific control numbers to allow tracking and management.

Questions about Non-CLP data, as observed during the data review process, are resolved by contacting the respective site personnel and laboratories as appropriate for resolution. All communications are documented in the data validation record with comments as to the resolution to the observed deficiencies.

Where applicable, the following documents will be followed to evaluate data for fitness in decision making: EPA QA/G-4, Guidance on Systematic Planning using the Data Quality Objectives Process, EPA/240/B-06/001, February 2006, and EPA QA/G-9R, Guidance for Data Quality Assessment, A reviewer's Guide EPA/240/B-06/002, February 2006.

Describe the evaluative procedures used to assess overall measurement error associated with the project:

As delineated in the *Uniform Federal Policy for Implementing Environmental Quality Systems: Evaluating, Assessing and Documenting Environmental Data Collection and Use Programs Part 1: UFP-QAPP (EPA-505-B-04-900A, March 2005); Part 2A: UFP-QAPP Workbook (EPA-505-B-04-900C, March 2005); Part 2B: Quality Assurance/Quality Control Compendium: Non-Time Critical QA/QC Activities (EPA-505-B-04-900B, March 2005)*; "Graded Approach" will be implemented for data collection activities where specific decisions cannot be identified, since this guidance indicates that the formal DQO process is not necessary.

QAPP Worksheet #37: Usability Assessment (Concluded)

The data will be evaluated to identify/confirm the presence of on-site asbestos. The data will be used by EPA to determine if a removal action is conducted.

Identify the personnel responsible for performing the usability assessment: Site Project Management Team, and EPA, Region II OSC

Describe the documentation that will be generated during usability assessment and how usability assessment results will be presented so that they identify trends, relationships (correlations), and anomalies:

A copy of the most current approved QAPP, including any graphs, maps and text reports developed will be provided to all personnel identified on the distribution list.

Attachment A

Site Location Map

Attachment B

Sampling SOPs